SECTION 1: Identification

1.1. Identification

Product form : Mixture
Product name : Metal Primer

1.2. Recommended use and restrictions on use

Use of the substance/mixture : For RX only

1.3. Supplier

Manufacturer
Reliance Orthodontic Products, Inc. 1540 West Thorndale Ave.
Itasca, IL 60143 USA
630-773-4009, during normal business hours
www.relianceorthodontics.com

1.4. Emergency telephone number

Emergency number : CHEMTREC - 24-Hour Hazmat Emergency Communications Center
Domestic: 1-800-424-9300 Outside the U.S.: 1-703-527-3887, collect calls accepted

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS-US classification
Flammable liquids Category 2 H225 Highly flammable liquid and vapor
Skin corrosion/irritation Category 2 H315 Causes skin irritation
Skin sensitization, Category 1 H317 May cause an allergic skin reaction
Specific target organ toxicity (single exposure) Category 3 H335 May cause respiratory irritation
Hazardous to the aquatic environment - Acute Hazard Category 3 H402 Harmful to aquatic life

Full text of H statements : see section 16

2.2. GHS Label elements, including precautionary statements

GHS-US labeling

Hazard pictograms (GHS-US) : 

Hazard statements (GHS-US) : H225 - Highly flammable liquid and vapor
H315 - Causes skin irritation
H317 - May cause an allergic skin reaction
H335 - May cause respiratory irritation
H402 - Harmful to aquatic life

Precautionary statements (GHS-US) : P210 - Keep away from heat/sparks/open flames/hot surfaces. - No smoking
P233 - Keep container tightly closed
P240 - Ground/Bond container and receiving equipment
P241 - Use explosion-proof ventilating equipment
P242 - Use only non-sparking tools
P243 - Take precautionary measures against static discharge
P261 - Avoid breathing vapors
P264 - Wash hands thoroughly after handling
P271 - Use only outdoors or in a well-ventilated area
P272 - Contaminated work clothing must not be allowed out of the workplace
P273 - Avoid release to the environment
P280 - Wear eye protection, face protection, protective gloves
P302+P352 - If on skin: Wash with plenty of soap and water
P303+P361+P353 - If on skin (or hair): Take off immediately all contaminated clothing. Rinse
Metal Primer
Safety Data Sheet

2.3. Other hazards which do not result in classification
No additional information available

2.4. Unknown acute toxicity (GHS US)
Not applicable

SECTION 3: Composition/Information on ingredients

3.1. Substances
Not applicable

3.2. Mixtures

<table>
<thead>
<tr>
<th>Name</th>
<th>Product identifier</th>
<th>%</th>
<th>GHS-US classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>4-Methacryloxyethyl Trimellitic Anhydride</td>
<td>(CAS-No.) 70293-55-9</td>
<td>1 - 5</td>
<td>Not classified</td>
</tr>
</tbody>
</table>

Full text of hazard classes and H-statements : see section 16

SECTION 4: First-aid measures

4.1. Description of first aid measures

First-aid measures general : Call a poison center/doctor/physician if you feel unwell.
First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing. Call a poison center/doctor/physician if you feel unwell.
First-aid measures after skin contact : Rinse skin with water/shower. Remove/Take off immediately all contaminated clothing. If skin irritation or rash occurs: Get medical advice/attention.
First-aid measures after eye contact : Rinse eyes with water as a precaution.
First-aid measures after ingestion : Call a poison center/doctor/physician if you feel unwell.

4.2. Most important symptoms and effects (acute and delayed)

Symptoms/effects after inhalation : May cause respiratory irritation.
Symptoms/effects after skin contact : Irritation. May cause an allergic skin reaction.

4.3. Immediate medical attention and special treatment, if necessary

Treat symptomatically.

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media


5.2. Specific hazards arising from the chemical

Fire hazard : Highly flammable liquid and vapor.
Reactivity : Highly flammable liquid and vapor.

5.3. Special protective equipment and precautions for fire-fighters

Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.
SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures: Ventilate spillage area. No open flames, no sparks, and no smoking. Avoid breathing mist, vapors. Avoid contact with skin and eyes.

6.1.2. For emergency responders

Protective equipment: Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up: Take up liquid spill into absorbent material. Notify authorities if product enters sewers or public waters.

Other information: Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Ground/bond container and receiving equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Flammable vapors may accumulate in the container. Use explosion-proof equipment. Wear personal protective equipment. Use only outdoors or in a well-ventilated area. Avoid breathing mist, vapors. Avoid contact with skin and eyes.

Hygiene measures: Wash contaminated clothing before reuse. Contaminated work clothing should not be allowed out of the workplace. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures: Ground/bond container and receiving equipment.

Storage conditions: Store in a well-ventilated place. Keep cool. Keep container tightly closed. Store locked up.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

<table>
<thead>
<tr>
<th>Chemical</th>
<th>ACGIH</th>
<th>ACGIH TWA (ppm)</th>
<th>50 ppm (Methyl methacrylate; USA; Time-weighted average exposure limit 8 h; TLV - Adopted Value)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Methyl Methacrylate, monomer, inhibited (80-62-6)</td>
<td>ACGIH</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ACGIH</td>
<td>ACGIH TWA (ppm)</td>
<td>50 ppm (Methyl methacrylate; USA; Time-weighted average exposure limit 8 h; TLV - Adopted Value)</td>
<td></td>
</tr>
<tr>
<td>4-Methacryloxyethyl Trimellitic Anhydride (70293-55-9)</td>
<td>ACGIH STEL (ppm)</td>
<td>100 ppm (Methyl methacrylate; USA; Short time value; TLV - Adopted Value)</td>
<td></td>
</tr>
<tr>
<td>Not applicable</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

8.2. Appropriate engineering controls

Appropriate engineering controls: Ensure good ventilation of the work station.

Environmental exposure controls: Avoid release to the environment.

8.3. Individual protection measures/Personal protective equipment

Hand protection:

Protective gloves

Eye protection:

Protective goggles

Skin and body protection:

Wear suitable protective clothing
Respiratory protection:
In case of insufficient ventilation, wear suitable respiratory equipment

### SECTION 9: Physical and chemical properties

#### 9.1. Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>Liquid</td>
</tr>
<tr>
<td>Appearance</td>
<td>Clear liquid.</td>
</tr>
<tr>
<td>Color</td>
<td>Colorless</td>
</tr>
<tr>
<td>Odor</td>
<td>Acrylic</td>
</tr>
<tr>
<td>Odor threshold</td>
<td>No data available</td>
</tr>
<tr>
<td>pH</td>
<td>No data available</td>
</tr>
<tr>
<td>Melting point</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Freezing point</td>
<td>No data available</td>
</tr>
<tr>
<td>Boiling point</td>
<td>No data available</td>
</tr>
<tr>
<td>Flash point</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative evaporation rate (butyl acetate=1)</td>
<td>No data available</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative vapor density at 20 °C</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative density</td>
<td>No data available</td>
</tr>
<tr>
<td>Solubility</td>
<td>No data available</td>
</tr>
<tr>
<td>Log Pow</td>
<td>No data available</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity, kinematic</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity, dynamic</td>
<td>No data available</td>
</tr>
<tr>
<td>Explosion limits</td>
<td>No data available</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>No data available</td>
</tr>
<tr>
<td>Oxidizing properties</td>
<td>No data available</td>
</tr>
</tbody>
</table>

#### 9.2. Other information
No additional information available

### SECTION 10: Stability and reactivity

#### 10.1. Reactivity
Highly flammable liquid and vapor.

#### 10.2. Chemical stability
Stable under normal conditions.

#### 10.3. Possibility of hazardous reactions
No dangerous reactions known under normal conditions of use.

#### 10.4. Conditions to avoid
Avoid contact with hot surfaces. Heat. No flames, no sparks. Eliminate all sources of ignition.

#### 10.5. Incompatible materials
No additional information available

#### 10.6. Hazardous decomposition products
Under normal conditions of storage and use, hazardous decomposition products should not be produced.

### SECTION 11: Toxicological information

#### 11.1. Information on toxicological effects
Acute toxicity: Not classified
Metal Primer
Safety Data Sheet
according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

**Methyl Methacrylate, monomer, inhibited (80-62-6)**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>LD50 oral rat</strong></td>
<td>&gt; 6000 mg/kg (Rat; Equivalent or similar to OECD 401; Literature study; 7900 mg/kg bodyweight; Rat; Equivalent or similar to OECD 401; Weight of evidence; 8400 mg/kg bodyweight; Rat; Weight of evidence)</td>
</tr>
<tr>
<td><strong>LD50 dermal rabbit</strong></td>
<td>&gt; 7550 mg/kg (Rabbit; Literature study; Equivalent or similar to OECD 402; &gt;5000 mg/kg bodyweight; Rabbit; Experimental value)</td>
</tr>
<tr>
<td><strong>LC50 inhalation rat (mg/l)</strong></td>
<td>27.5 mg/l/4h (Rat; Literature study)</td>
</tr>
<tr>
<td><strong>ATE US (vapors)</strong></td>
<td>27.5 mg/l/4h</td>
</tr>
<tr>
<td><strong>ATE US (dust, mist)</strong></td>
<td>27.5 mg/l/4h</td>
</tr>
<tr>
<td><strong>Skin corrosion/irritation</strong></td>
<td>Causes skin irritation.</td>
</tr>
<tr>
<td><strong>Serious eye damage/irritation</strong></td>
<td>Not classified</td>
</tr>
<tr>
<td><strong>Respiratory or skin sensitization</strong></td>
<td>May cause an allergic skin reaction.</td>
</tr>
<tr>
<td><strong>Germ cell mutagenicity</strong></td>
<td>Not classified</td>
</tr>
<tr>
<td><strong>Carcinogenicity</strong></td>
<td>Not classified</td>
</tr>
<tr>
<td><strong>IARC group</strong></td>
<td>3 - Not classifiable</td>
</tr>
</tbody>
</table>

**4-Methacryloxyethyl Trimellitic Anhydride (70293-55-9)**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Reproductive toxicity</strong></td>
<td>Not classified</td>
</tr>
<tr>
<td><strong>Specific target organ toxicity – single exposure</strong></td>
<td>May cause respiratory irritation.</td>
</tr>
<tr>
<td><strong>Specific target organ toxicity – repeated exposure</strong></td>
<td>Not classified</td>
</tr>
<tr>
<td><strong>Aspiration hazard</strong></td>
<td>Not classified</td>
</tr>
<tr>
<td><strong>Symptoms/effects after inhalation</strong></td>
<td>May cause respiratory irritation.</td>
</tr>
<tr>
<td><strong>Symptoms/effects after skin contact</strong></td>
<td>Irritation. May cause an allergic skin reaction.</td>
</tr>
</tbody>
</table>

**SECTION 12: Ecological information**

**12.1. Toxicity**

Ecology - general: The product is not considered harmful to aquatic organisms or to cause long-term adverse effects in the environment.

**Methyl Methacrylate, monomer, inhibited (80-62-6)**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>EC50 Daphnia 1</strong></td>
<td>69 mg/l (EC50; EPA OTS 797.1300; 48 h; Daphnia magna; Flow-through system; Fresh water; Experimental value)</td>
</tr>
<tr>
<td><strong>LC50 fish 2</strong></td>
<td>191 mg/l (LC50; EPA 660/3 - 75/009; 96 h; Lepomis macrochirus; Static system; Fresh water; Experimental value)</td>
</tr>
</tbody>
</table>

**12.2. Persistence and degradability**

**Methyl Methacrylate, monomer, inhibited (80-62-6)**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Persistence and degradability</td>
<td>Readily biodegradable in water. No (test) data on mobility of the substance available. Photolysis in the air.</td>
</tr>
<tr>
<td>Biochemical oxygen demand (BOD)</td>
<td>0.14 g O₂ /g substance</td>
</tr>
<tr>
<td>ThOD</td>
<td>1.9 g O₂ /g substance</td>
</tr>
<tr>
<td>BOD (% of ThOD)</td>
<td>0.073</td>
</tr>
</tbody>
</table>

**12.3. Bioaccumulative potential**

**Methyl Methacrylate, monomer, inhibited (80-62-6)**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>BCF fish 1</td>
<td>2.97 - 3.5 (BCF)</td>
</tr>
<tr>
<td>Log Pow</td>
<td>1.32 - 1.38 (Experimental value; OECD 107: Partition Coefficient (n-octanol/water): Shake Flask Method; 20 °C)</td>
</tr>
<tr>
<td>Bioaccumulative potential</td>
<td>Low potential for bioaccumulation (Log Kow &lt; 4).</td>
</tr>
</tbody>
</table>

**12.4. Mobility in soil**

**Methyl Methacrylate, monomer, inhibited (80-62-6)**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Surface tension</td>
<td>0.028 N/m (20 °C)</td>
</tr>
</tbody>
</table>
12.5. Other adverse effects

Effect on the global warming : No known effects from this product.

GWPmix comment : No known effects from this product.

SECTION 13: Disposal considerations

13.1. Disposal methods

Waste treatment methods : Dispose of contents/container in accordance with licensed collector’s sorting instructions.

Additional information : Flammable vapors may accumulate in the container.

SECTION 14: Transport information

Department of Transportation (DOT)

In accordance with DOT

Transport document description : UN1247 Methyl methacrylate monomer, stabilized, 3, II

UN-No.(DOT) : UN1247

Proper Shipping Name (DOT) : Methyl methacrylate monomer, stabilized

Class (DOT) : 3 - Class 3 - Flammable and combustible liquid 49 CFR 173.120

Packing group (DOT) : II - Medium Danger

Hazard labels (DOT) : 3 - Flammable liquid

DOT Packaging Non Bulk (49 CFR 173.xxx) : 202

DOT Packaging Bulk (49 CFR 173.xxx) : 242

DOT Special Provisions (49 CFR 172.102) : IB2 - Authorized IBCs: Metal (31A, 31B and 31N); Rigid plastics (31H1 and 31H2); Composite (31HZ1). Additional Requirement: Only liquids with a vapor pressure less than or equal to 110 kPa at 50 °C (1.1 bar at 122 °F), or 130 kPa at 55 °C (1.3 bar at 131 °F) are authorized.

T4 - 2.65 178.274(d)(2) Normal........... 178.275(d)(3)

TP1 - The maximum degree of filling must not exceed the degree of filling determined by the following: Degree of filling = 97 / 1 + a (tr - tf) Where: tr is the maximum mean bulk temperature during transport, and tf is the temperature in degrees celsius of the liquid during filling.

DOT Packaging Exceptions (49 CFR 173.xxx) : 150

DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27) : 5 L

DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75) : 60 L

DOT Vessel Stowage Location : B - (i) The material may be stowed “on deck” or “under deck” on a cargo vessel and on a passenger vessel carrying a number of passengers limited to not more than the larger of 25 passengers, or one passenger per each 3 m of overall vessel length; and (ii) “On deck only” on passenger vessels in which the number of passengers specified in paragraph (k)(2)(i) of this section is exceeded.

DOT Vessel Stowage Other : 40 - Stow “clear of living quarters”

Other information : No supplementary information available.

TDG

Transport by sea

Air transport

Transport document description (IATA) : UN 1247, 3

UN-No. (IATA) : 1247

Class (IATA) : 3 - Flammable Liquids
SECTION 15: Regulatory information

15.1. US Federal regulations
No additional information available

15.2. International regulations

CANADA
No additional information available

EU-Regulations
No additional information available

National regulations
No additional information available

15.3. US State regulations
No additional information available

SECTION 16: Other information

Full text of H-phrases:

<table>
<thead>
<tr>
<th>H</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>H225</td>
<td>Highly flammable liquid and vapor</td>
</tr>
<tr>
<td>H315</td>
<td>Causes skin irritation</td>
</tr>
<tr>
<td>H317</td>
<td>May cause an allergic skin reaction</td>
</tr>
<tr>
<td>H335</td>
<td>May cause respiratory irritation</td>
</tr>
<tr>
<td>H402</td>
<td>Harmful to aquatic life</td>
</tr>
</tbody>
</table>

SDS US (GHS HazCom 2012)

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.